

WHAT IS CLAIMED IS

1. A method for effecting transcranial electrostimulation including the steps of:

producing an asymmetrical tone burst envelope comprising a predetermined number of squarewave pulses, a first portion of which constitutes a high amplitude burst followed by a second portion which constitutes a low amplitude burst;

repeating the asymmetrical tone burst successively at a repetition frequency that is between 70 Hertz and 85 Hertz; and

delivering the repeated tone burst signals to electrodes of a transcranial electrostimulation apparatus.

2. The method according to Claim 1 wherein the frequency of pulses comprising the asymmetrical tone burst is approximately 1150 to 1450 times the repetition frequency.

3. The method according to Claim 1 wherein the duration of the high amplitude first portion of each tone burst is substantially twenty-five percent of the total duration of the tone burst.

1 4. The method according to Claim 1 wherein the step of
2 producing an asymmetrical tone burst includes producing a tone
3 burst which is asymmetrical in amplitude and asymmetrical in the
4 relative duration of the positive and negative portions of each
5 complete cycle of the tone burst signal.

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7 5. The method according to Claim 4 wherein the ratio of the
8 asymmetry of the amplitude of the first and second portions of the
9 tone burst is substantially 1:3 and the duration of the positive
10 and negative portions of each pulse of the tone burst also has a
11 ratio of 1:3.

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13 6. The method according to Claim 5 wherein the frequency of
14 pulses comprising the asymmetrical tone burst is approximately 1150
15 to 1450 times the repetition frequency.

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17 7. The method according to Claim 6 wherein the duration of
18 the high amplitude first portion of each tone burst is
19 substantially twenty-five percent of the total duration of the tone
20 burst.

1 8. A transcranial electrostimulation apparatus including in
2 combination:

3 a source of bipolar pulses of a first predetermined
4 frequency;

5 a source of modulating control signals to yield a second
6 frequency which is less than said first predetermined frequency;

7 an amplitude control means responsive to the modulating
8 control signals and coupled to the source of bipolar pulses at the
9 first predetermined frequency for causing the amplitude of bipolar
10 pulses in successive groups of bipolar pulses to vary in accordance
11 with a predetermined asymmetrical pattern at the second frequency.

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13 9. A transcranial electrostimulation apparatus according to
14 Claim 8 further including a pulse shaper coupled with the source of
15 bipolar pulses of the first predetermined frequency to shape the
16 dwell time of the bipolar pulses of the first predetermined
17 frequency.

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19 10. The transcranial electrostimulation apparatus according
20 to Claim 9 wherein the amplitude control means causes the bipolar
21 pulses to have a greater amplitude in a first portion of each group
22 of pulses and to have a lesser amplitude in a second portion of
23 each group of pulses.
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1 11. The transcranial electrostimulation apparatus according
2 to Claim 10 wherein the amplitude of the pulses in the first
3 portion of each group of pulses has an amplitude substantially
4 three times the amplitude of the pulses in the second portion.

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6 12. A transcranial electrostimulation apparatus according to
7 Claim 11 including output electrodes coupled with the amplitude
8 control means.

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10 13. A transcranial electrostimulation apparatus according to
11 Claim 11 wherein the source of modulating control signals is a
12 frequency divider coupled to the source of bipolar pulses of the
13 first predetermined frequency.

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15 14. The transcranial electrostimulation apparatus according
16 to Claim 8 wherein the amplitude control means causes the bipolar
17 pulses to have a greater amplitude in a first portion of each group
18 of pulses and to have a lesser amplitude in a second portion of
19 each group of pulses.

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21 15. The transcranial electrostimulation apparatus according
22 to Claim 14 wherein the amplitude of the pulses in the first
23 portion of each group of pulses has an amplitude substantially
24 three times the amplitude of the pulses in the second portion.
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1 16. A transcranial electrostimulation apparatus according to
2 Claim 8 including output electrodes coupled with the amplitude
3 control means.

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5 17. A transcranial electrostimulation apparatus according to
6 Claim 8 wherein the source of modulating control signals is a
7 frequency divider coupled to the source of bipolar pulses of the
8 first predetermined frequency.